WHAT IS CLAIMED IS:

1. A sensor comprising a support; a sampling layer which can react with a target species to form or release a signal compound which is capable of effecting a reaction with silver halide to form a latent image, and a signal amplification layer comprising silver halide.

2. The sensor of claim 1 wherein the sensor further comprises an additional layer which blocks electromagnetic radiation which is capable of exposing the silver halide.

3. The sensor of claim 1 wherein the signal compound can react with a secondary compound contained in the silver halide layer which can then react with the silver halide to form a latent image.

4. The sensor of claim 1 wherein the signal compound can react with the silver halide to form a latent image.

5. The sensor of claim 1 wherein the support is opaque.

6. The sensor of claim 2 wherein said light-blocking layer is positioned between the sampling layer and the silver halide layer.

7. The sensor of claim 1 wherein the sampling layer also blocks electromagnetic radiation which is capable of exposing the silver halide.

8. The sensor of claim 2 wherein the sampling layer is located between the light-blocking layer and the silver halide layer.

9. The sensor of claim 1 wherein the silver halide layer contains a dye image forming coupler.

10. The sensor of claim 2 wherein the light-blocking layer is diffusible.

11. The sensor of claim 6 wherein the light-blocking layer is diffusible to the signal compound.

12. The sensor of claim 8 wherein the light-blocking layer is diffusible to the target species.

13. The sensor of claim 2 wherein the light-blocking layer is opaque.

14. The sensor of claim 2 wherein the light-blocking layer contains a colorant.

15. The sensor of claim 14 wherein the colorant is a pigment.

16. The sensor of claim 14 wherein the colorant is a dye.

17. The sensor of claim 2 wherein the light-blocking layer contains non-light sensitive silver.

18. The sensor of claim 1 wherein the silver halide is sensitized.

19. The sensor of claim 1 wherein the signal compound is capable of effecting a reaction through a chemical cascade.

20. The sensor of claim 1 wherein the signal compound is formed through a chemical cascade reaction.

21. The sensor of claim 1 wherein the signal compound is capable of effecting a reaction with the silver halide by reacting with the light-blocking to effect a reaction with silver halide to form a latent image.

22. The sensor of claim 1 wherein the sampling layer and the signal amplification layer comprising silver halide are the same layer.

23. The sensor of claim 1 further comprising a removable protective layer over the sampling layer.

24. The sensor of claim 1 wherein the sensor can detect more than one type of contaminant.

25. The sensor of claim 1 wherein the target species is *E. coli*.

26. The sensor of claim 1 wherein the signal compound is methanethiol.

27. The sensor of claim 1 further comprising a filter layer.

28. The sensor of claim 1 wherein the sampling layer is above the signal amplification layer.

29. The sensor of claim 1 wherein the silver halide amplification layer comprises (a) silver halide that upon LIFCS exposure provides a latent image in exposed grains that are capable of acting as a catalyst for the subsequent formation of a silver image in a development step, (b) a non-LIFCS sensitive source of reducible silver ions, (c) a reducing composition for the reducible silver ions, and (d) a hydrophilic or hydrophobic binder.

30. A method of detecting a contaminant comprising contacting the sensor of claim 1 with the material to be tested and allowing the silver halide to form a latent image.

31. The method of claim 30 further comprising the step of developing the latent image to form a detectable signal.

32. The method of claim 30 wherein the detectable signal is measurable.

33. The method of claim 30 wherein the latent image is developed by heat.

34. The method of claim 30 wherein the latent image is developed by chemical processing.

35. The method of claim 30 further comprising reading the signal.

36. The method of claim 35 wherein the signal is read visually.

37. The method of claim 35 wherein the signal is read by a densitometer.

38. The method of claim 35 wherein the signal is electronically scanned.

39. The method of claim 38 wherein the results of the electronic scan are analyzed using a computer.